

SPECIAL SPECIFICATION

SECTION 08210S

WOOD DOORS

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SPECIAL SPECIFICATION

SECTION 08210S

WOOD DOORS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Furnish and install flush wood doors as scheduled and detailed in the Contract documents, and as specified herein.
1. Interior solid core doors with wood veneer faces.
 2. Interior solid core doors with hardboard faces.
 3. Interior solid core fire-rated doors.
 4. Shop priming of interior flush wood doors.
 5. Factory finishing of interior flush wood doors.
 6. Factory fitting interior flush wood doors to frames.
 7. Factory machining for hardware.
- B. Related Sections: Refer to the following sections for related work:
1. Division 8, Section "Finish Hardware" for hardware installed in door and frames.
 2. Division 8, Section "Steel Doors and Frames" for steel frames for wood doors.
 3. Division 9, Section "Painting" for field painting of doors and frames.

1.02 ENVIRONMENTAL OBJECTIVES

- A. As described in section 01805 "Environmental Objectives", the owner has determined that this project must be rated by LEED™ Version 2.0 green building rating system, which was **a reference document to be used** in March 2000 by the U.S. Green Building Council, 1015 18th Street, NW, Suite 805, Washington, DC 20036. Phone: 202/ 82-USGBC (828-7422) Fax: 202/ 828-5110.
- C. While these goals and implementation strategies are incorporated within the Contract Documents, suggestions and input from the contractor for implementing these goals are encouraged. A team approach is encouraged.
- D. Manufacturer/ Fabricator to supply documentation of level of compliance or non-compliance with the following requirements before consideration as an "Acceptable Manufacturer".
1. The Design Team has determined that the following be mandatory requirements:

- a. Choose materials that substantially replenish themselves faster than traditional extraction demand (e.g. planted and harvested in less than a 10 year cycle) and do not result in significant biodiversity loss, increase erosion, air quality impacts, and that are sustainably managed.
 - b. Comply with the requirements of section 01505S “Construction Waste Management”
2. The Design Team has determined that the following be mandatory requirements for products specified for interior air-conditioned spaces:
- a. Composite wood or agrifiber products must contain no added urea-formaldehyde resins
 - b. Adhesives must meet or exceed the VOC limits of South Coast Air Quality Management District Rule #1168 by, AND all sealants used as a filler must meet or exceed Bay Area Air Resources Board Reg. 8, Rule 51
 - c. Paints and coatings must meet or exceed the VOC and chemical component limits of Green Seal requirements.
3. The Design Team has determined that the following be a highly desirable objective:
- a. The product(s) supplied is manufactured/fabricated within a radius of 500 miles from the project site and/or the manufactured/fabricated product(s) are extracted, harvested, or recovered within 500 miles of the project site.
 - b. The product(s) supplied is to have a minimum weighted average of 20% post consumer recycled content material, OR, a minimum weighted average of 40% post-industrial recycled content material.
 - c. All wood-based materials are to be certified in accordance with the Forest Stewardship Council guidelines for wood building components. ForestWorld.com can help locate suppliers
- D.** Products that conform to the Environmental Objectives yet do not fully meet other requirements of this section may still be considered at the sole discretion of the Owner and Architect.

1.03 RELATED SECTIONS

- A. Section 06423S – Wood Veneer Faced Paneling: Product requirements for custom veneer stain, and varnish for placement by this section.
- B. Section 12345S – Laboratory Casework: Wood venner stain.

1.04 REFERENCES

- A. American Society of Testing and Materials (ASTM)
E152 Standard Method of Fire Tests of Door Assemblies
- B. Architectural Woodwork Institute (AWI)

AWI Quality Standards 6th Edition Version 1.1

- C. Door and Hardware Institute (DHI)
 - DHI-A115-W Wood Door Preparation Standard
 - DHI-WDHS-3 Recommended Hardware Locations for Wood Flush Doors
- D. Inchcape Testing Services - Warnock Hersey (ITS-WH)
- E. National Fire Protection Association (NFPA)
 - NFPA 80 Standard for Fire Doors and Windows
- F. National Wood Window and Door Association (NWWDA)
 - NWWDA I.S.1-A Architectural Wood Flush Doors
- G. Underwriters Laboratory, Inc. (UL)
 - UL-63 Fire Door Frames

1.05 DEFINITIONS

Warp: Any distortion in the plane of the door itself, and does not refer to the door in relation to the frame or the jamb in which it is hung. The term warp includes bow, cup and twist, which are defined as follows:

- A. Bow: Flatwise deviation from straight line drawn from top to bottom; curvature along length of door.
- B. Cup: Deviation from straight line drawn from side to side; curvature along width of door.
- C. Twist: Deviation in which one or two corners of door are out of plane with other corners of door.

1.06 SUBMITTALS

- A. Environmental Objectives Documentation: signed by the manufactures/fabricators stating level of compliance for the requirements and objectives in Environmental Objectives in this section
- B. General: Submit the following in accordance with conditions of Contract and Division 1, Section "Descriptive Submittals."
- C. Product Data: Submit detailed technical information for each distinct product specified in this section, including details of core and edge construction, trim for openings and louvers, and factory-finishing specifications.
- D. Shop Drawings: Submit shop drawings indicating location and size of each door, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire-rating, requirements for veneer matching and factory finishing and other pertinent data.

For factory-machined doors, indicate dimensions and locations of cutouts for locksets and other cutouts adjacent to light and louver openings.

- E .Samples: Submit manufacturers samples for initial selection in the form of color charts consisting of actual materials in small sections for the following:
1. Faces of factory-finished doors. Show a portion of the standard range of colors available for stained finishes that best match the basis of design.
 2. Door construction approximately 12 inch (305 mm) square showing faces, edges, and core.

1.07 QUALITY ASSURANCE

- A. Comply with the following standards:
1. NWWDA Quality Standard: I.S.1-A, “Architectural Wood Flush Doors,” of the National Wood Window and Door Association.
 2. AWI Quality Standard: “Architectural Woodwork Quality Standards” of the Architectural Woodwork Institute for grade of door, core, construction, finish, and other requirements exceeding those of NWWDA quality, except where noted otherwise to comply with NWWDA.
- B. Fire-Rated Wood Doors: Provide wood doors that comply with NFPA 80; are identical in materials and construction to units tested in door and frame assemblies per ASTM E152; and are labeled and listed by UL, or ITS-WH.
1. Oversized, Fire-Rated Wood Doors: For door assemblies exceeding sizes of tested assemblies, provide manufacturer’s certificate stating that doors conform to all standard construction requirements of tested and labeled fire-door assemblies except for size.
 2. Temperature Rise Rating: At stairwell enclosures, provide doors that have a temperature rise rating of 450 degrees F (232 degrees C) maximum in 30 minutes of fire exposure.
- C. Single-Source Responsibility: Obtain doors from one (1) source and by a single manufacturer.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Protect doors during transit, storage, and handling as required by manufacturer to prevent damage, warpage, or deterioration.
- B. Identify each door with individual opening numbers as designated on shop drawings, using temporary, removable, or concealed markings.

1.09 PROJECT CONDITIONS

Conditioning: Do not deliver or install doors until conditions for temperature and relative humidity have been stabilized and will be maintained in storage and installation areas during the remainder of the construction period to comply with the following requirement applicable to Project's geographical location:

AWI Quality Standard Section 100-S-11 "Relative Humidity and Moisture Content."

1.10 WARRANTY

Door Manufacturer's Warranty: Submit manufacturer's standard form signed by manufacturer, Installer, and Contractor, agreeing to repair or replace defective doors that have warped (bow, cup, or twist) more than 1/4 inch (6.35 mm) in a 42-inch by 84-inch (1067-mm by 2134-mm) section or that show telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 75-mm) span, or do not conform to tolerance limitations of referenced quality standards.

- A. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors where defect was not apparent prior to hanging.
- B. Warranty shall be in effect during the following period of time after date of substantial completion.

Solid Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

Subject to compliance with requirements, provide doors by one of the following:

Algoma Hardwoods Inc.

Eggers Industries, Architectural Door Division

Weyerhaeuser Co.

2.02 INTERIOR FLUSH WOOD DOORS

- A. General: Provide wood doors complying with applicable requirements of referenced standards for types of doors indicated, and as specified.

Door Thickness: 1-3/4 inch (45 mm), unless indicated otherwise.

- B. Solid Core Doors for Stained Finish: Comply with the following requirements:

1. Grade: Custom.

2. Core Construction:

- a. Particle board core free of formaldehyde, with 100% rapidly renewable material such as: **bamboo** poplar, or cottonwood waste **such as sawdust, shavings, and lumber scraps**; or wheat or rice strawboard such as **these products** “Goldboard” “Primeboard” “Woodstalk,” or a “Meadowood”.

3. Face Material: Plain Sliced Maple Veneer, unless noted otherwise

a. Stained Finish: Match

4. Construction

a. Stained Finish: Five (5) plies.

5. Edges: Wood Veneer to match faces.

6. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering.

- C. Fire-Rated Solid Core Doors: Comply with the following requirements:

1. Faces and Grade: Provide faces and grade to match non-fire-rated doors in same area of building, unless otherwise indicated.

2. Construction: Manufacturer’s standard core construction as required to provide fire-resistance rating indicated.

3. Blocking: Provide composite blocking designed to maintain fire resistance of door but with improved screw-holding capability of same thickness as core and with minimum dimensions as follows:

a. 5-inch (127-mm) top rail blocking.

b. 5-inch (127-mm) bottom rail blocking.

4. Edge Construction: Provide manufacturer’s standard laminated-edge construction for improved screw-holding capability and split resistance as compared to edges composed of a single layer of treated lumber.

5. Pairs: Furnish formed-steel edges and astragals for pairs of fire-rated doors, unless otherwise indicated.

2.03 VENEER MATCHING

- A. Within Door Faces: Provide doors with the veneer matching as selected in Section 06423S – Wood Veneer Faced Paneling
- B. Pairs and Sets: Provide pair matching and set matching for pairs of doors and for doors hung in adjacent sets.
- C. Doors with Transoms: Provide continuous matching.

2.04 LOUVERS AND LIGHT FRAMES

- A. Metal Louvers: Size, type, and profile shown and fabricated from the following:
 - 1. Galvanized Steel: 0.039 inches (1.0 mm) thick, hot dip, zinc-coated, and factory primed for paint finish.
 - 2. Color: As selected at time of submittals from manufacturer's standard color chart.
- B. Metal Frames for Light Openings in Fire Doors: Manufacturer's standard frame formed of 0.0478-inch (1.2 mm) thick cold-rolled steel sheet, factory primed, and approved for use in doors of fire-rating indicated.

2.05 FABRICATION

- A. Factory fit doors to suit frame-opening sized indicated, with the following uniform clearances and bevels:

Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements of NFPA 80 for fire-resistance-rated doors.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame shop drawings, DHI A115-W series standards, and hardware templates.
 - 1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before proceeding with factory machining.
 - 2. Metal Astragals: Premachine astragals and formed-steel edges for hardware for pairs of fire-rated doors.
- C. Transom and Side Panels: Fabricate matching panels with same construction, exposed surfaces, and finish as specified for associated doors.

Fixed Transom Panels: Fabricate fixed panels with solid lumber transom bottom rail and door top rail, both rabbeted as indicated. Provide factory-installed spring bolts for concealed attachment into jambs of metal door frames.
- D. Openings: Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of door(s) required.
 - 1. Light Openings: Trim openings with moldings of material and profile indicated.
 - 2. Louvers: Factory install louvers in prepared openings.

3. Openings or louvers shall not be allowed in fire rated door and frame assemblies unless approved by the applicable testing agency for use in the intended application, and entire tested assembly meets fire rating specified in Contract documents.

2.07 FACTORY FINISH

- A. General: Comply with referenced quality standards requirements for factory finishing.
- B. Finish wood doors at factory, unless indicated elsewhere in Contract documents to be field-finished.
- C. Finish: As selected in Section 06423S – Wood Veneer Faced Paneling.:

PART 3- EXECUTION

3.01 EXAMINATION

- A. Examine installed door frames prior to hanging door.
 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
 2. Reject doors with defects.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's recommended procedures and requirements of referenced standard.
Fire-rated doors: Comply with NFPA 80 requirements.
- B. Hardware: For installation see Division 8, Section "Finish Hardware."
- C. Metal Louvers: Install louvers per manufacturer's instructions and recommendations. Louvers shall not be installed in fire-rated doors unless entire door/frame/louver assembly has been UL tested and approved for the required fire resistance.
- D. Factory Fitted Doors: Accurately align and fit doors for trouble free operation throughout range of door swing.
- E. Factory-Finished Doors: Restore finish before installation, if fitting or machining is required at the job site.
- F. Field-Fit Doors: Align and fit doors in frames with uniform clearances as indicated below. Bevel according to manufacturer's recommendations. Do not trim stiles and rails in excess of limits set by manufacturer or permitted with fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.
 1. Fitting Clearances for Non-Fire-Rated Doors: Provide 1/8 inch (3.18 mm) at each jamb and head, 1/16 inch (1.588 mm) per leaf at meeting stiles for pairs of doors, and

1/2 inch (12.7 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4 inch (6.35 mm) clearance from bottom of door to top of threshold.

2. Fitting Clearance for Fire-Rated Doors: Comply with NFPA 80.

3.04 ADJUSTING AND PROTECTION

- A. Operation: Correct or replace hardware on doors that do not swing or operate freely.
- B. Restore door finishes damaged during installation, in a manner that results in the door showing no evidence of the restoration. If refinished door cannot be made to match other doors, refinished door must be replaced at the Contractor's expense.
- C. Protect doors as recommended by door manufacturer to ensure that wood doors will be without damage or deterioration at the time of Substantial Completion.

END OF SECTION